

ABSTRACT

This semiconductor device manufacturing method comprises the steps of: forming a thick gate oxide film (thick oxide film) in a first region of a substrate, forming a thin gate oxide film (thin oxide layer) in a second region, and
5 then, applying oxynitridation to these gate oxide films; forming gate electrodes to be on these gate oxide films; and implanting an ion that contains nitrogen or nitrogen atoms into at least one part of an interface between the thick gate
10 oxide film (thick oxide film) and the substrate before or after the step of forming the gate electrodes, thereby forming a highly oxy-nitrided region. In this manner, in a semiconductor device in which there coexist a MISFET having a thin gate insulation film and a MISFET having a thick gate
15 insulation film, hot carrier reliability of the MISFET having the thick gate insulation film is improved.